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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|--------------------------|---------------------|------------------|
| 09/783,405 | 02/15/2001 | Ajay Chandra V. Gummalla | 1875.0430001 | 4790 |
| 26111 | 7590 | 08/03/2004 | EXAMINER | |
| STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 | | | CHO, HONG SOL | |
| | | | ART UNIT | PAPER NUMBER |

2662

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 09/783,405 | Applicant(s) GUMMALLA ET AL. | |
| | Examiner Hong Cho | Art Unit 2662 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>07142004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it includes the title of the invention. Correction is required. See MPEP § 608.01(b).
2. Claim 24 is objected because it has a spelling error. "Collusion" should be collision.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-16, 18-23 are rejected under 35 U.S.C. 102(e) as being unpatentable over Chapman et al (U.S 6621812), hereinafter referred to as Chapman.

Re claims 1, 2, 13, 15, 16, 22, Chapman discloses suppressing and compressing silence in a cable modem system (*asynchronous network environment*) of one or more of CMs (*local nodes*) communicating with CMTS (*centralized node*) in figure 2. Chapman discloses detecting a silent period when a speaker at the subscriber location (*upstream communication from the local node*) stops talking,

and deactivating or reducing unsolicited grant services given by the CMTS (column 4, lines 59-64). Chapman discloses a connection flow in figure 5 for initiating and terminating voice activity detector (VAD) function between CM and CMTS using DOCSIS signaling protocol (column 4, lines 17-24). Chapman discloses generating the notification signal (*activity messages*) from VAD in a local node after receiving the audio signals (column 10, lines 55-60).

Re claims 3, 7-9, 14, 19, and 23, Chapman discloses reactivating unsolicited grant service when CMTS receives activity message from VAD indicating upstream bandwidth request in a request slot (*contention mini-slot*) from CM (column 4, lines 64-67; column 5, lines 1-5).

Re claim 10, as explained in the rejection of claim 7, Chapman further discloses receiving the notification signal (*activity message as a piggyback request*) to restart unsolicited grant service (column 8, lines 46-48).

Re claims 11, 12, 20, and 21, as explained in the rejection of claim 1, Chapman further discloses CMs including VOIP application (*transmitting voice data over an Internet Protocol*) and an associated transmit queue (column 4, lines 2-7).

Re claims 5 and 18, Chapman discloses at column 10, lines 6-9 allocating unsolicited grants when the audio packets are not transmitted in response to the unsolicited grant services (*detecting silent period in response to a number of unused grant or a reduction in grant usage*).

Re claim 6, Chapman discloses at column 1, lines 26-28 a voice processing technique to reduce bandwidth usage by using VAD (*reducing downstream transmission by detecting a silent period*)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman in view of Chan (5897613).

Re claims 4 and 17, Chapman does not teach receiving a voice activity message with a silence flag indicating the start of a silent period. However, Chan discloses silence suppressor checking whether the received signals represent silence and determining whether this is the start of a silence interval by comparing with the energy threshold of last-transmitted packet (column 3, lines 12-20). Chan further teaches using packets (*carrying silence flag*) to convey the initial segment of the unvarying information such as silence (column 3, lines 65-67).

In view of this, having the teaching of Chan and given system of Chapman, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to implement the process of marking the start of the silence period into Chapman's system. The motivation to combine is to get the benefit taught by Chan since Chan states at column 4, lines 1-4 that there is significant bandwidth saving by avoiding transmission of silence data.

Allowable Subject Matter

5. Claim 24 is allowable.

The following is an examiner's statement for reasons for allowance.

6. Claim 24 is allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose a method for calculating number of contention mini-slots required to restrict the probability of collision to a specific value once the number of calls in silent state is determined. It is noted that the closest prior art, Chapman, shows a method of for mapping voice activity detection to a scheduled access media. However, Chapman fails to teach determining the number of contention mini-slots and allocating and using them for voice priority.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent (6438123) to Chapman disclose a method and apparatus for supporting header suppression in IP network

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- US Patent (6594280) to Chapman disclose a method and apparatus for supporting header suppression in IP network

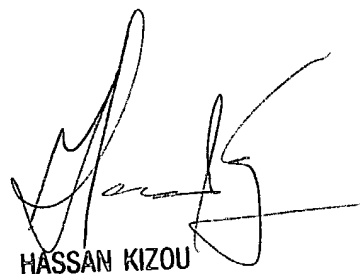
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 703-305-0343.

The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hong Cho
Examiner
Art Unit 2662



HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600